

## REMARKS

Applicants have carefully reviewed the arguments presented in the Office Action and respectfully request reconsideration of the claims in view of the remarks presented below.

By the present amendment a number of claims have been amended; some claims to non-elected species have been cancelled, subject to presentation in continuing applications, and some new claims have been added. Some of the new claims are independent claims including the subject matter of allowed dependent claims; and a couple of additional new claims present the invention in somewhat different terms.

Regarding prior art rejections, claim 1 was rejected based on the Peters patent which discloses pressurized bubble cushioning layers. Claim 1 has now been amended to specify that the molded pad includes a base layer with the co-molded structures extending substantially perpendicular from the base layer; and that the structures are self supporting and free-standing in the absence of air pressure, liquid, gel or the like.

With regard to the advantages achieved by the present invention, as compared to the bubble cushioning of Peters, attention is respectfully directed to the Declaration of Tracy Grim, one of the inventors in this application, and its attachments. It is useful at this point to include paragraphs 5 through 9 of the Grim Declaration, as follows:

"5. One of the principal references relied upon in the U.S. Patent Office communication is the Peters patent, which discloses the use of a pressurized bubble type padding between a stiff shell and the ankle. The bubble type padding is apparently similar to the bubble type packaging material with which we are familiar. The bubbles have very thin walls and their shape is maintained by air pressure within the bubbles. These bubbles burst under high pressure; and children frequently stomp on the bubbles

which burst with a pop. Once they have been burst or deflated, the very thin side walls collapse.

6. The physical characteristics of the structures of the present invention are quite different from that of the Peters bubble padding; and Exhibits A and B are schematic showings of displacement vs. load applied to the cushioning layers. The characteristic of the present invention as shown in Exhibit A shows the gentle cushioning at low applied forces, with increasing resistance with greater applied force or load, and no discontinuity in the characteristic or bottoming out of the padding layer.

7. On the other hand, Exhibit B is a schematic showing of the expected displacement versus load characteristic of the bubble cushioning layer. The bubbles do not compress to a substantial extent with applied force, so we have a relatively stiff cushioning layer, and a steep load vs. displacement characteristic. Further if high impacts or sharp objects pierce the bubble, the unpressurized walls have very little cushioning effect, and the injured part of the anatomy will essentially bottom out against the enclosing shell.

8. On the other hand with the base layer and the structures integrally molded to the base layer, in accordance with the present invention and application, there can be no bottoming out, but instead with higher loads or impacts on the cushioning layer, the ankle smoothly compresses first the fingers and then the geometric structures to easily accommodate the high forces. Even without the fingers, the structures provide reliable smooth and continuous cushioning of the ankle, regardless of the presence of air pressure, liquids or gel, for examples. Note that the molded structures are self supporting and free-standing even in the absence of fluids or pressure. On the other hand, the pressurized bubble cushion is

understood to be initially somewhat stiff, and if pressurization is lost, wholly inadequate to avoid bottoming out of the ankle against the enclosing stiff outer shell.

9. In closing, it is submitted that the present invention is significantly different in structure and is clearly superior and unobvious to those skilled in the art, as compared with all other known alternatives."

As mentioned above claim 1 has now been amended to bring in a number of limitations which distinguish from the Peters reference as follows:

1. Base Layer with hollow structures extending substantially perpendicular therefrom.
2. Hollow structures integrally molded to the base layer.
3. Hollow structures are self supporting and free standing in the absence of air pressure, liquid, gel or the like.

With these claimed differences, and the significant advantages achieved by the different structures, as set forth in the Tracy Grim Declaration, the claim is clearly patentable over the Peters reference.

Incidentally, in the Office Action, page 2, section 3 reference is made to Column 8, Lines 44 – 48 of the Peters patent which reads as follows:

"The sealed plastic envelope 68 provides a means of containing and positioning the bubble pad(s) 66 and provides a cushioning effect when used in combination with the bubble pad(s) 66 so as to provide optimal support to the injured area. Use of the sealable envelope 68 also prevents slippage of the bubble pads 64 after alignment."

The suggestion in the Office Action, that this passage discloses cushioning without inflation, is respectfully controverted. Apparently, this paragraph relates to the "sealed plastic envelope" 68 as shown to advantage in Figs. 12 and 13. This sealed envelope appears to be another thin walled bladder; and there is no indication of support with no inflation of this bladder or of the cells of the enclosed bubble pads.

Claim 13 has been amended to include some or all of these distinguishing features. Thus claim 13 includes the base layer with integrally molded cells extending substantially perpendicular from the base layer, and the self-supporting free-standing limitation (in the absence of interval pressure). As discussed above the limitations produce a new mode of operation as elaborated in the Grim Declaration and Exhibits, not disclosed or suggested by the Peters patent.

The next independent claim to be considered is claim 24. In reviewing the rejection of claim 24 in paragraph 18 on page 5 of the office Action, it appears that there must be some error as there are no Figs. 16 and 17 in the Adams patent. In a telephone call with the Patent Examiner handling this application, it was agreed that there was an error.

However, despite the absence of an applicable rejection of claim 24, the claim has been amended to include some limitations similar to those discussed hereinabove, and its allowance is respectfully solicited for the reasons set forth above relative to the other independent claims.

Claim 33 and associated dependent claims were rejected based on a combination of the Grim and the Davis patents. This claim has been amended to include many of the limitations discussed above, which clearly distinguish from the Grim and Davis patents, as well as from the Peters patent. In view of the new mode of operation as described in the Grim Declaration, and the different claimed structure the allowance of this group of claims is clearly appropriate.

Claims 42 – 46, 53, 57 and 58, involving the removable insert were withdrawn from consideration and they are being cancelled, subject to possible presentation in a continuing application.

Claims 47 and 48 have been amended to include one or more of the features described hereinabove; and are clearly allowable in view of the different structure and the resultant new mode of operation.

Concerning claims 50 – 60, claims 50, 52 and 54 – 58 are allowed, claim 51 stands withdrawn, and withdrawn claims 53, 57 and 58 have been cancelled.

Claims 59 and dependent claim 60 were indicated as being withdrawn, but claim 59 has now been amended so that it clearly reads on the elected species. Claim 59 has also been amended to include limitations similar to those discussed above relative to claim 1 and related claims. In view of the new structure and new result (see Grim Declaration), the allowance of claims 59 and 60 is appropriate and is solicited.

New claims 61 – 66 are independent claims in which allowed dependent claims are presented in independent form.

New claims 67 and 68 include limitations similar to amended claim 1 but in somewhat different terms. Thus, it includes the integrally molded base layer and structures extending outward from or perpendicularly from the base layer. The structures are also specified as being self-supporting and free-standing in the absence of inflation or the like by air, liquid or gel. Accordingly the claims clearly distinguish from Peters and the other references, and provide a new mode of operation.

In the event that this patent application is not considered to be entirely in condition for allowance, it would be appreciated if the Examiner would grant a telephone interview. Applicant's attorney would prefer a personal interview with the Examiner, but is located in Los Angeles so that a personal interview is not practical. Accordingly, a comparable


telephone interview would be appreciated if the application is not considered allowable.  
Thank you.

In conclusion, an early Notice of Allowance is respectfully solicited.

Applicant hereby authorizes the Commissioner to charge any fees or additional fees, which may be required, or credit any overpayment to Deposit Account No. 06-2425. Should such additional fees be associated with an extension of time, Applicant respectfully requests that this paper be considered a petition therefor.

Respectfully submitted,

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Enclosed:  
Declaration of Tracy Grim w/Exhibits

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